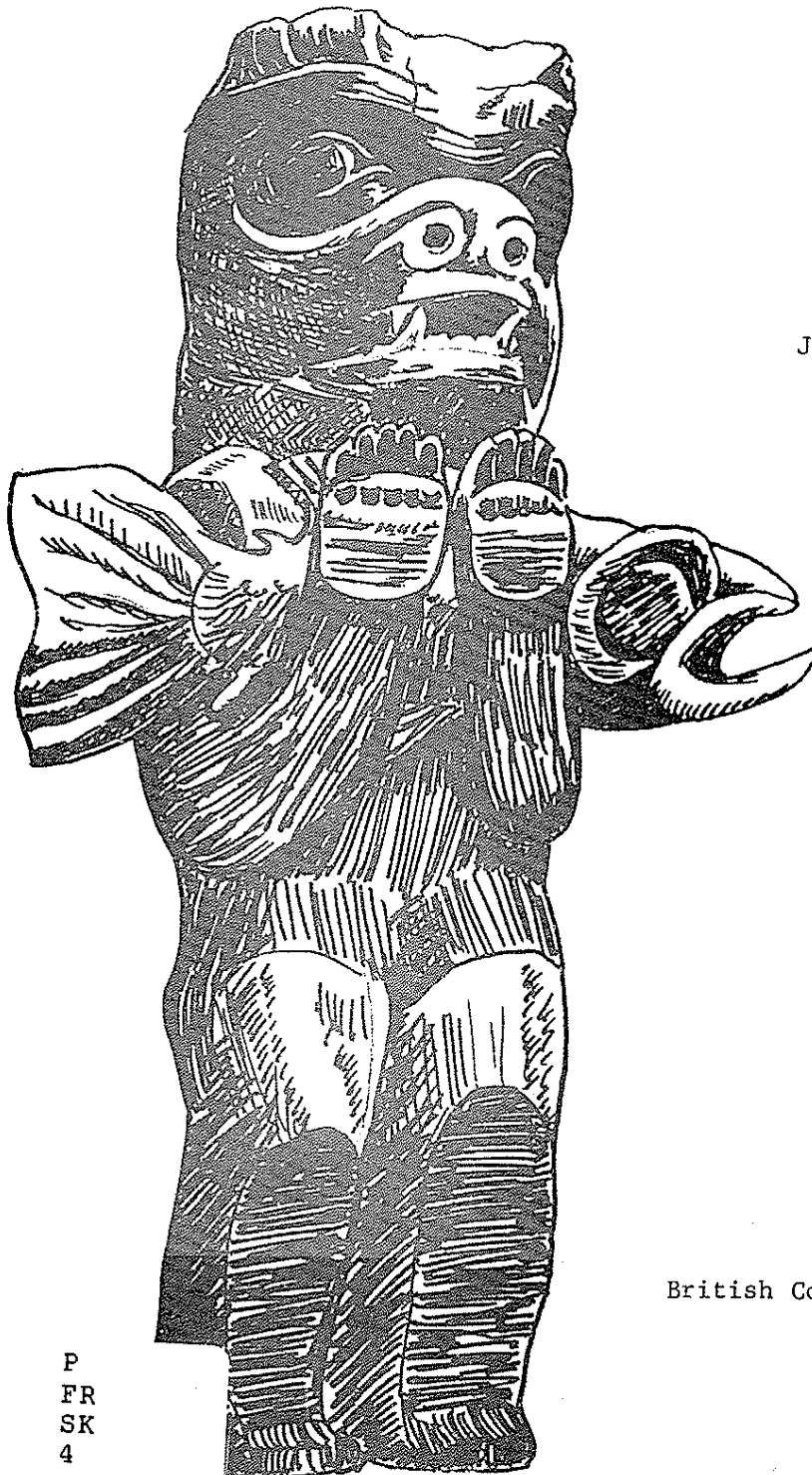


# Skeena Region



British  
Columbia  
Fish &  
Wildlife  
Branch



PRELIMINARY SURVEY OF  
JUVENILE SALMONID REARING HABITAT  
KITIMAT, B. C.

76-4

SK-4

By

M. Morris  
B. Eccles

British Columbia Fish and Wildlife Branch  
Smithers, B. C.

December, 1976

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S. P. HATLEVIK

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MORRIS, M.  
PRELIMINARY SURVEY OF  
JUVENILE SALMONID REARING  
CQVS c. 1 mm SMITHERS

PRELIMINARY SURVEY OF  
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S. P. HATLEVIK

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## INTRODUCTION

A preliminary study of the juvenile salmonid populations of the Kitimat River was undertaken during June to August, 1976.

The main objectives were:

- a) To begin to determine juvenile life history of the Kitimat winter steelhead, and
- b) To locate and describe rearing habitat preferences of juvenile salmonids. The main emphasis was on steelhead trout, but information was also collected on cutthroat trout, Dolly Varden, coho, and chinook salmon.

This report describes the results of the habitat survey.

## METHODS

Several methods were used to observe and sample juvenile salmonids in different rearing habitats. The method most frequently used was Gee trapping, with roe for bait. Traps could

be set where the water velocity was not over about 1.5 meters per second and where the depth was between 0.25 meters and 2 meters.

The second most commonly used method was electroshocking with a Smith Root VII Electroshocker. Shock sites were usually on a creek which was too shallow to be trapped effectively or on a side channel of a large stream. For safety's sake, electroshocking was always done where the water was flowing less than 1 meter per second with a maximum depth of less than 1 meter. When fish were stunned by the shock, they were scooped up in a "kitchen" sieve on a long pole which proved to be easier to manouever than a large dip net. A small mesh beach seine was tied across the stream to catch the escapees.

There is easy access to most of the Kitimat River from the network of logging roads in the valley. Thus, most of the study was done from road access points. Less accessible areas, such as parts of the lower mainstem were reached by riverboat. The most inaccessible areas of the system, such as the upper Wedeene, upper Little Wedeene, and the main river above the highway bridge were surveyed using a helicopter for access.

### DESCRIPTION OF THE STUDY AREA

The Kitimat River is located 143 miles southeast of Prince Rupert, B.C., and flows into the Pacific Ocean at the head of Douglas Channel. The river and its tributaries drain a wide glaciated valley 838 square miles in area. Discharges range from 685 c.f.s. to 59,000 c.f.s. with an averaged flow of 5,257 c.f.s. (Department of Environment, 1972).

The climate of the Kitimat area is moderated by the ocean. Summers are warm and wet and the winters are associated with heavy snowfall.

Natural vegetation of the valley can be classified in the Coastal Western Hemlock zone (Krajina, 1965). The dominant trees of the valley bottom are western hemlock, amabilis fir, and along the river, black cottonwood and alder. Understory shrubs include devil's club, stink current and vaccinium.

Settlement in the valley is localized. The Town of Kitimat, situated at the mouth of the river, has a population of 13,000. The local industry is centered around the Alcan aluminum smelter and Eurocan's logging operations.

The logging in the Kitimat valley has been very extensive

over the past seven decades with the present valley landscape nearly denuded of mature timber. The removal of much of the stabilizing vegetation combined with the fact that most of the valley's soil is loose glacial till often causes sudden increases in stream flow after heavy rain.

### SUMMARY OF RESULTS

Note: The complete results are presented in appendices at the rear of the report.

Table 1. Summary of results from Humphreys Creek

Location	Date 1976	Gee Trap Set Numbers	Water Temp. (c)	Total Fish
at mainline bridge	June 10	1 - 6	4.9	24 DV 10 'Rb
	July 16	129 - 131A	6.5	1 Co 8 DV
right below falls	June 10	7 - 10	4	1 DV
at highway bridge	June 10	11 - 12	5.2	5 DV 1 Rb
	July 19	148 - 152	-	No fish
midsection, $\frac{1}{4}$ mile below falls	June 10	13 - 16	5.6	3 DV 5 Rb 3 Co
access road below highway bridge	June 10	17 - 20	6	2 DV 10 Rb
	July 16	<u>126 - 128</u> *	7	<u>No fish</u> **

\* Total traps set: 34

\*\* Total Fish Captured: 43 DV, 26 Rb, 4 Co



Humphreys Creek was one of the most productive tributaries for rearing rainbow trout. The main limiting factor is the barrier waterfall at Mile 3. From a quarter mile below the falls, rearing habitat is present along the length of the creek. The stream is less subject to sudden changes in water level than other logged tributaries of the Kitimat.

#### Nalbeelah Creek

The rearing potential of Nalbeelah Creek is limited by the fact that the creek is subject to sudden changes in flow after heavy rain. The stream is accessible to migrant fish and has rearing potential to about Mile 4, but because of the frequent flushing, the usable rearing habitat for rainbow is limited. More Dolly Varden were captured in this creek than in any other on the Kitimat River (Table 2 and Table 11).

Table 2. Summary of results from Nalbeelah Creek

Location	Date 1976	Gee Trap Set Numbers	Water Temp. (c)	Total Fish
at highway bridge	June 16	21-23	6	14 DV
at mainline bridge	June 16	24-25	6	4 DV 1 Rb
bridge on Branch 20	June 16	26-29	6	14 DV 3 Rb 1 Ct 1 Co
	June 25	37-39	7	12 Co
midsection access road (about mile 1.5)	June 16	30-33	6	1 DV
	June 25	40-42	7	1 DV 3 Rb 22 Co
bridge at tributary confluences, (about mile 2)	June 16	34-36	7	27 DV 8 Co
	June 25	43-45	6.5	27 DV 2 Rb 2 Ct 4 Co
	July 16	132-134	7	7 Dv 2 Co
	July 21	153-160	-	7 DV 8 Co
tributary of Nalbeelah, 4 miles from mouth	June 25	46-47	7.5	1 DV 3 Ct
main creek, 4.5 miles from mouth	June 25	48-49	4.5	No fish
at mouth of side- channel of Kitimat	July 21	161-164	-	4 DV 1 Ch
		*		**

\* Total Traps Set: 43

\*\* Total Fish Captured: 107 DV, 57 Co, 9 Rb, 6 Ct, 1 Ch

Chist Creek

Table 3. Summary of results from Chist Creek

Location	Date 1976	Set Numbers	Water Temp (C)	Total Fish
Gee Trapping:				
near confluence with the Kitimat	June 26	50-51	5.5	1 DV 1 Rb
midsection near mile 24.5 of logging road	June 26	52-59	5.1	2 DV
		*		**
Electroshocking:				
sidechannel about ½ mile above main tributary	Aug 22	19	-	3 Ch 1+ DV

\* Total Traps Set: 10

\*\* Total Fish Captured: 3 DV, 1 Rb

Due to access problems, Chist Creek was only sampled at three locations. Deep canyons and a barrier waterfall prevent fish movement much past the first major tributary on the north side of the creek. Although the Gee trapping results were poor, the electroshocking established that there is rearing habitat for anadromous

fish to about three miles below the barrier falls.

Cecil Creek

Table 4. Summary of Results from Cecil Creek

Location	Date 1976	Set Numbers	Water Temp (C)	Total Fish
<b>Gee Trapping:</b>				
tributary 3.5 miles from mouth	June 29	60-65	9.5	No fish***
at mainline bridge (br W61 bridge)	June 29	66-69	-	1 Co 1 Rb
at old spur bridge between W1 and W60 bridge	June 29	70-74	-	24 Co 12 DV 1 Ct
old mainline W1 bridge	June 29	75-78	-	14 DV 6 Rb 3 Co
		*		**
<b>Electroshocking:</b>				
tributary 3.5 miles from mouth, along Branch W61	June 29	1	9.5	83+ Co 9 Dv 6 Ct 16 Rb
				****

\* Total Traps Set: 19

\*\* Total fish captured: 28 Co, 26 DV, 7 Rb, 1 Ct

\*\*\* It is possible the bait used for these sets had gone bad.  
Compare results to the electroshocking results for the  
same tributary.

\*\*\*\* Total fish captured in Cecil Creek: 111+ Co, 35 DV, 7 Ct, 23 Rb

Cecil Creek has a large amount of rearing habitat used by all the salmonids and is probably the most productive tributary of the Kitimat. (additional information with a map in Morris and Eccles, 1975). The creek is accessible for most of its length, has an even gradient and is not subject to sudden flushing. The fact that small streams can be important rearing areas is shown by the number of juvenile fish taken from the tributary of Cecil at mile 3.5.

#### Deception Creek

Table 5. Summary of Results from Deception Creek

Location	Date 1976	Set Numbers	Water Temp <sup>o</sup> (C)	Total Fish
Gee Trapping:				
at mainline bridge	July 10	104-105	14.2	5 Co 2 Rb
Electroshocking:				
at mainline bridge	July 10	9	14.2	20+ Co 15 Rb 2 Ct 1 Dv
	July 21	12	-	20+ Co 15 Rb
above barrier falls below the lake	July 21	11	12.5	16 Rb*
				**

\* Lake stock rearing in the creek.

\*\* Total fish captured: 39+ Co, 24 Rb, 2 Ct, 1 Dv

Though Deception Creek is only about two meters wide, it supports a large population of rearing salmonids. Because the creek is so shallow, the water temperatures are high and there is abundant food for juvenile fish. The potential for rearing in the stream is limited by the small size of the creek and by the barrier falls about midway to the lake. Above the falls, the stream is heavily used by the lake rainbow.

#### Wedeeene River

The Wedeeene River has little habitat suitable for rearing salmonids. Steep gradients, cold water and lack of spawning gravel appeared to be the limiting factors. Dolly Varden was the most abundant species and was found to within five miles of the river's source. (Table 6).

#### Little Wedeeene River

Fish productivity of the Little Wedeeene River is limited by the barrier waterfall just above Dahl Creek. The two tributaries, Dahl Creek and Bowbyes Creek, are also blocked by waterfalls a short distance from the main river. The accessible section of the river has some rearing habitat but from the sampling results it seems that the fish population is small (Table 7).

Table 6. Summary of Results from Wedeene River

Location	Date	Set Numbers	Water Temp (C)	Total Fish
Gee Trapping:				
mainstem, near tri- butary on spur of W9	July 1	79-80	8	No fish
tributary on spur W9	July 1	81-82	9.8	4 DV 9 Co 2 Ct 1 Rb
mainstem at railway bridge	July 1	83-84	5.0	No fish
mainstem mile 0.5 off Branch W8	July 1	85-86	8.5	2 DV
mainstem at main- line bridge	July 1	87-89	8.9	5 Co 3 Dv
mainstem beside mile 10.5 of mainline	July 1	90-92	8, 11	1 Ct 1 Rb 2 DV'
tributary at mile 11 of mainline	July 1	93	8	6 DV 4 Co
Raley Creek	July 1	94-95	5.5	No fish
mainstem at mile 13.6 of mainline	July 1	96	8	1 DV
mainstem bridge on Branch 1000	July 1	97-98	8.5	1 DV
Sidechannel at mile 14.25 of mainline	July 1	99-100	8	2 Rb 4 DV
		*		**

Table 6 (continued)

Location	Date	Set Numbers	Water Temp(C)	Total Fish
Electroshocking:				
sidechannel of Wedeene approx. 1 mile above mainline bridge	July 7	2	4	2 DV 4+ Co
sidechannel of Wedeene approx. 1 mile above confluence of Aveling Creek	July 7	3	4	5 DV 1
sidechannel of Aveling Creek, approx. 0.5 miles above mouth	July 7	4	5	9 DV 2 Co
Raley Creek side- channel above main- line bridge	July 10	8	7	1+ Co 1 Ch 1 DV 1 Rb ***

\* Total Number of Traps set: 22

\*\* Total Fish Trapped: 23 DV, 18 Co, 3 Ct, 4 Rb.

\*\*\* Total Fish Electroshocked: 17 DV, 7+ Co, 1 Ch, 1 Rb.

\*\*\*\* Total of Fish Captured in Wedeene River: 40 DV, 25+ Co,  
3 Ct, 5 Rb, 1 Ch.



Table 7. Summary of Results for Little Wedeene River

Location	Date	Set Numbers	Water Temp(C)	Total Fish
Gee Trapping:				
sidechannel near mouth	July 11	108-109	8	14 Co
sidechannel between big and little Wedeene	July 11	110-112	6	No fish
mainstem, at rail- way bridge	July 11	113-114	6	No fish
humic sidechannel near railway bridge	July 11	115	-	2 Co
quarter mile below Dahl Creek	July 11	116-117	6	No fish
Dahl Creek	July 11	118	-	No fish
at mainline bridge	July 11	119-121	6	No fish
Bowbyes Creek	July 11	<u>122-125</u> *	6.8	<u>No fish</u> **
Electroshocking:				
sidechannel of Little Wedeene, approx. 4 miles above Dahl Creek	July 7	5	4.5	3 DV
back channel of Lukes Creek, approx. 1 mile above mouth	July 7	6	4.5	No fish

\* Total Traps Set: 18

\*\* Total Fish Trapped: 16 Co

Total of Fish Captured in Little Wedeene River: 16 Co, 3 DV

Goose Creek and Unnamed Creek

Table 8. Summary of Results for Goose Creek and Unnamed Creek, north of Humphreys Creek

Location	Date	Set Numbers	Water Temp (C)	Total Fish
Goose Creek- Gee Trapping:				
at mainline bridge	July 10	106-107	-	No fish
Unnamed Creek north of Humphreys Creek: Gee Trapping:				
pool under mainline bridge	July 10	101-103	9.2	18 Co 2 Dv
Electroshocking:				
mile 15.25 of Crown Zellerbach mainline	July 10	7	8	2 Pacific Lampreys

The unnamed creek north of Humphreys Creek meanders through clearcut along the mainline east of the highway. It seems to be a tributary of Humphreys Creek through swamp land near the mainstem Kitimat. The low gradient and humic stain make good rearing habitat for coho fry but trout habitat is limited.

Goose Creek is near the Eurocan dispatch yard. The water is very clear and the bottom is sandy. Though no fish were taken from Goose Creek, there is potential rearing habitat for trout. Salmon are known to use the lower end of the creek.

\*See Appendix N Survey of Duck Creek

Mainstem Kitimat River and the Upper Tributaries

Because the main river is so braided, there are many places, particularly during low water, where the conditions will suit rearing fish. The trapping results from below the Wedeene indicated that not many fish use the lower river for rearing. However, upstream from the fence site many juveniles were captured. Smolt-size rainbows were trapped at mile 15 of the mainstem (Table 9). Perhaps the fish were moving into the mainstem from the tributaries as water levels dropped.

Table 9. Summary of Results for Mainstem Kitimat and Upper Tributaries

Location	Date	Set Numbers	Water Temp (C)	Total Fish
Gee Trapping:				
mainstem below Wedeene to townsite	July 17	135-147	approx. 7	No' fish
at 17 mile highway bridge	July 23	165-167	-	9 DV 6 Co
at Federal Fisheries fence site	July 23	168-171	-	28 DV 2 Co 2 Rb 1 Ct
mile 14 of mainstem beside the highway	July 24	172-175	approx. 7	19 DV 5 Co 1 Ct
mile 15 of mainstem beside the highway	July 24	176-179	approx. 7	12 Rb 5 Co
flooded gravel pit beside the highway	July 25	180-181	-	1 9" <u>kokanee</u>
		*		**

Table 9. (continued)

Location	Date	Set Numbers	Water Temp (C)	Total Fish
Electroshocking:				
mainstem Kitimat at Mile 16	July 12	10	-	11 Co 9 Ch 2 Rb
McKay Creek, 1 mile from mouth	Aug. 22	13	6.5	1 DV 2 Ch 2 Rb 1 Co
sidechannel of Hunter Creek	Aug. 22	14	5	5 DV
Hoult Creek above barrier falls	Aug. 22	15	5.5	No fish
Davies Creek above barrier falls	Aug. 22	16	6.2	No fish
sidechannel of main- stem above cascades above Davies	Aug. 22	17	6.9	5 DV 2 Co
sidechannel of main- stem 1 mile below barrier falls	Aug. 22	18	6.5	9+ DV
		***		****

\* Total Traps Set: 30

\*\* Total Fish Trapped: 56 DV, 18 Co, 14 Rb, 2 Ct, 1 Kokanee

\*\*\* Total Shock Sites: 7

\*\*\*\* Total Fish Electroshocked: 20 DV, 11 Ch, 14 Co, 4 Rb

Total Fish Captured: 76 DV, 32 Co, 18 Rb, 2 Ct, 11 Ch

The river is accessible to anadromous fish nearly to the headwaters and coho fry were found well up the river. Of the upper tributaries, McKay Creek has the most rearing potential. Davies and Hoult Creeks have barrier falls near their mouths and Hunter Creek has an unstable channel pattern. The mainstem between Tetlock and Hunter Creek has many side channels suitable for rearing.

#### DISCUSSION AND CONCLUSIONS

The microenvironments within a stream determine salmonid rearing sites. The fish choose to rear in small areas where the conditions suit their habits, such as behind an instream boulder or in a still pool. Different species choose different conditions to rear in.

The microenvironment of a certain place on the stream can change quickly. For example, a change in the water level can occur within hours and will alter the water velocities of specific rearing sites along the stream. If the new velocity is not suitable for the juvenile fish, then the fish must move elsewhere. Rearing sites cannot be located as points on a map of the stream, but they can be described as a set of conditions which will apply to different places on the stream at different times.

A specific example of different fish species in the same rearing sites on different dates is shown in Table 10 which is a summary of fish collection results from two sites on Humphreys Creek.

On July 16 daytime trapping results were poor compared with the overnight sets on June 10 (Table 10). To test whether night sets were more effective than day sets, the traps were reset overnight on July 16. The overnight sets on July 16 failed to catch rainbows as the sets in June had.

On June 10, the rainbows trapped at the mainline bridge (Table 10) ranged from 11 to 13 cm., whereas the rainbows taken below the highway bridge were mostly 6 to 10 cm. The results suggested that larger juveniles were rearing further upstream than the smaller fish. The trapping results from July 16 could not verify this idea.

Water temperature is important to fish activity. At low temperatures ( $6^{\circ}\text{C}$  and less) the young fish are often inactive under cobble substrate and trapping is not very successful. In warmer water, fish are visible in the stream and trapping results improve (Bustard, 1973). Because temperatures in the small creeks were warmer than the main river, most juveniles were captured in creeks such as Deception Creek, the tributary of Cecil Creek on Branch W61 and the tributary of the Wedeene River off Branch W9 (see Appendices). The poor trapping results in the cold water streams such as the Little Wedeene River

Table 10. Comparison of Trapping Results on Different Dates, Humphreys Creek

Location	Date 1976	Set Number	Water Temp(C)	Length of Set	Fish Captured
at mainline bridge	June 10	1	4.9	17 hr. overnight	2 DV 2 Rb
	July 16	129 (reset of 1)	6.5	7 hr. overday	No fish
	July 16	129 A (reset of 1)	6.5	17 hr. overnight	No fish
	June 10	2	4.9	17 hr. overnight	5 Rb 1 Dv
	July 16	130	6.5	7 hr. overday	No fish
	July 16	130 A (rest of 2)	6.5	17 hr. overnight	No fish
	June 10	4	4.9	17 hr. overnight	2 Rb 12 Dv
	July 16	131 (reset of 4)	6.5	7 hr. overday	No fish
	July 16	131 A (reset of 4)	6.5	17 hr. overnight	1 Co 8 Dv
	below highway bridge at access road	June 10	19	6	17 hr. overnight
July 16		126 (reset of 19)	7	8 hr. overday	No fish
June 10		20	6	17 hr. overnight	8 Rb
July 16		127 (reset of 20)	7	8 hr. overday	No fish

cannot be blamed solely on the cold temperatures and the thus inactive fish. More likely, the small creeks really do have the largest populations of rearing fish where the warm water promotes activity and increases the amount of food available. Deception Creek had a water temperature of  $14.2^{\circ}\text{C}$ , the warmest temperature recorded during the summer.

Rainbows were most often captured in faster water ( $0.6$  meters/second and greater). The fish were often taken at the interface between fast and eddying water such as behind an instream boulder or at an eddy along the stream bank. Cover was often present as sticks or roots underwater. For a table of all the stream conditions where rainbow trout were captured, see Appendix A.

A few pictures were chosen as representative of "typical" rainbow rearing sites. These photographs are presented in Appendix M (figure 1 to 7, 9, 10, 12, and 13) and are referred to in the tables of results.

Cutthroat trout juveniles were most often taken in slower water than the rainbows, usually with lots of instream sticks or roots for cover. Often the water was humic stained (Appendix B lists conditions where cutthroat were captured. See also Figures 9 and 12.



Dolly Varden char were generally distributed through all habitats, being captured in fast or still water, with or without cover. In glacial waters or above the migration limits of anadromous fish, resident Dolly Varden were often the only species captured. The greatest number of Dolly Varden were captured in Nalbeelah Creek (Table 11).

Of the salmon species, coho was the most frequently captured, being present in beaver ponds, back channels and nearly all shallow, still water. Coho fry are easy to spot and are a good indication of accessibility of a stream to anadromous fish.

Chinook habitat preference was similar to rainbow trout, the fry most often taken in moving water of a depth of about 0.5 meters over cobble sub-strate. It is interesting that the chinooks captured were generally all the same size of about 10 cm. No chinook fry were captured until July 10 and electroshocking captured more chinook than Gee trapping did.

Table 11. Total Fish Captured per Creek

	Rb	Dv	Co	Ct	Ch
Humphreys Creek	26	43	4	0	0
Nalbeelah Creek	9	107	57	6	1
Chist Creek	1	4	0	0	3
Cecil Creek	23	35	111	7	0
Deception Creek	24	1	39	2	0
Wedene River	5	40	25	3	1
Little Wedene River	0	3	16	0	0
Unnamed Creek	0	2	18	0	0
Mainstem Kitimat	18	76	32	2	11
Total Captures:	106	311	302	20	16

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APPENDIX "A"

1. Rainbow Trout Collection - Gee Traps
2. Rainbow Trout Collections - Electroshocking

## GEE TRAP SETS WHERE RAINBOW WERE CAPTURED.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (METERS)	VELOCITY (meters/sec)	SUBSTRATE	FISH	FIGURE NUMBER
HUMPHYS CREEK mainline bridge	June 10	1	behind instream boulder	4.9	17 hour overnight	0.7	eddy	5 - 10 cm gravel	2 Rb 2 DV	1
	June 10	2	undercut bank, near stump	4.9	17 hour overnight	0.7	0.5	small gravel and sand	5 Rb 1 DV	2
	June 10	4	cutbank, interface of sidechannel & mainstr.	4.9	17 hour overnight	0.3	interface	sand and small gravel	2 Rb 12 DV	2
	June 10	6	side of mainflow behind boulder	4.9	17 hour overnight	0.7	eddy	6-10 cm gravel & sand	1 Rb 3 DV	-
	June 10	11	in back eddy of bridge abutment	5.2	6 hour overday	0.35	eddy	10 - 20 cm gravel	1 Rb 4 DV	-
	June 10	15	bouldery run in midstream	5.6	18.5 hr. overnight	0.4	0.6	gravel and cobble 10- 40 cm	1 Rb	-
HUMPHYS CREEK quarter mile below falls	June 10	16	in log jam, between branches	5.6	18.5 hr. overnight	0.3	eddy	sand and gravel 5- 10 cm	4 Rb 3 DV 3 CO	4
	June 10	19	alder shaded eddy behind log	6	17 hr. overnight	0.3	eddy	sand and gravel 6-15 cm	2 Rb 1 DV	5
	June 10	20	in shade of over- hanging log.	6	17 hr. overnight	0.3	1.0	sand and gravel 3- 10 cm	2 Rb	-
MULBELLAH CREEK at mainline bridge	June 16	25	upstream of bridge under alder overhang south bank.	6	17.5 hr. overnight	0.4	0.3	small gravel	1 Rb 4 DV	-
	June 16	28	upstream of bridge, south bank bridge abutment	6	17 hour overnight	0.5	eddy	gravel, 6 - 10 cm	1 Rb 3 DV	-
MULBELLAH CREEK bridge on Br 20	June 16	29	Downstream of bridge under alder on south bank.	6	17 hr. overnight	0.3	interface	small gravel	2 Rb 3 DV	-

## APPENDIX A-1 CONT'D.

## GEE TRAP SETS WHERE RAINBOW WERE CAPTURED.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (meter/second)	SUBSTRATE	FISH	FIGURE NUMBER
NALBEELAH CREEK Mile 1.5	June 25	40	eddy behind wood debris, near bank	7	4 hr. overday	0.75	eddy	sand and gravel to 30 cm	1 Rb 1 DV	6
	June 25	42	shallow pond under log jam cutoff from mainflow	7	4 hr. overday	0.5	still	silt	2 Rb 29 Co	-
	June 25	45	undercut bank, downstream of bridge	6.5	4 hr. overday	0.5	0.3	mostly sand some gravel less than 20 cm	2 Rb 1 Ct 9 DV 4 Co	--
CHRIST CREEK, near confluence with Kitimat.	June 26	51	interface along bank, near branches	5.5	9 hr. overday	0.5	1.0	sand, pebbles 15-40 cm	1 Rb	7
CECIL CREEK, bridge on Br N60	June 29	67	5 m upstream of bridge, west bank	-	6.5 hr. overday	1.0	0.2	silty	1 Rb 1 Co	-
CECIL CREEK, old mainline bridge on Br W1.	June 29	75	near log and stump, west bank, up from bridge	-	6 hr. overday	0.5	eddy	sand and silt	1 Rb 1 Co 2 DV	-
	June 29	76	in eddy, same as # 75	-	6 hr. overday	0.5	eddy	sand and silt	2 Rb 4 DV 1 Co	-
	June 29	77	upstream of bridge at sidechannel confluence	-	6 hr. overday	0.75	1.0	gravel to 20 cm	2 Rb 4 DV 1 Co	-
WEDDERE RIVER tributary off spur W9	June 29	78	upstream of bridge beside east bank	-	6 hr. overday	0.4	interfac	gravel to 20 cm	1 Rb 3 DV	-
	July 1	82	near undercut bank overhanging brush	9.8	5.5 hr. overday	0.4	0.6	gravel to 15 cm.	1 Rb 4 Co	-
WEDDERE RIVER beside mi. 10.5 of mainline	July 1	90	pool below barrier culvert on small tributary.	11.0	4.0 hr. overday	0.3	0.3	gravel to 5 to 20 cm	1 Rb 1 Ct 2 DV	-
	July 1	99	beside bank, east side	8.0	3.5 hr. overday	0.4	0.3	sand and instream logs	2 Rb 3 DV	-- 4

## APPENDIX A . I . CONT'D

## GEE TRAP SETS WHERE RAINBOW WERE CAPTURED.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (meters/sec)	SUBSTRATE	FISH	FISH NUMBER
DECEPTION CREEK at mainline bridge.	July 10	105	beside bank in fast riffle, under alders.	14.2	4.5 hr. overday	0.3	1.3	sand and gravel to 15 cm	2 Rb 1 Co	12
Mainstem Kitimat at Federal Fisher fence site.	July 23	168 to 171	in side channel and along bank of mainflow	approx. 7	20 hr. overnight	--	--	-- 2 Co.	TOTAL: 2 Rb 1 Ct 22 DV	-
MAINSTREAM KITIMAT beside mi 15 of the highway	July 24	176	beside bank in rip rap	approx. 7	20 hr. overnight	2.0	interface	angular 40-100 cm boulder	5 Rb 2 Co	-
	July 24	177	beside bank in rip rap	approx. 7	20 hr. overnight	2.5	eddy	angular 40-100 cm boulder	2 Rb 2 Co	-
	July 24	179	end of rip rap, under alders.	approx. 7	20 hr. overnight	1.5	interface	sand and boulder 40-80 cm.	4 Rb	-



APPENDIX A - 2 ELECTROSHOCK SITES WHERE RAINBOW WERE CAPTURED

LOCATION	DATE 1976	SITE NO.	WATER TEMP. (C)	SUBSTRATE	FISH	FIGURE NUMBER
CECIL CREEK TRIBUTARY on Dr N 61	June 29	1	9.5	gravel and cobble to 30 cm	16 Rb 6 Ct 9 DV 83 + Co	9
RILEY CREEK, side- channel above mainline bridge.	July 10	8	7	cobbles to 20 cm on sand & silt	1 Rb 1 DV 1 Ch 1 + Co	10
DECEPTION CREEK at mainline bridge	July 10	9	14.2	cobble and gravel	7 Rb 2 Ct 1 DV 14 Co	12
	July 21	12	--	cobble and gravel	15 Rb 20 + Co	12
MAINSTEM KITIMAT, beside Highway at Mile 16.	July 12	10	--	cobble	2 Rb 11 Co 9 Ch	--
McKAY CREEK, tributary of upper Kitimat, 1 mi. above mouth	August 22	13	6.5	cobble to 20 cm and some gravel	2 Rb 1 DV 2 Ch 1 Co	13

APPENDIX "B"

1. Cutthroat Trout Collections - Gee Traps
2. Cutthroat Trout Collections - Electroshocking

APPENDIX B - 1

GEE TRAP SETS WHERE CUTTHROAT WERE CAPTURED.

LOCATION	DATE 1976	Set NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (m/sec)	SUBSTRATE	FISH	FIGUR NUMER
NALBEEHAIH CREEK bridge on Dr. 20	June 16	26	sidechannel, upstream of bridge	6	17 hour overnight	1.5	still	silt	1 Ct 1 Co 6 DV	-
NALBEEHAIH CREEK at about mi. 2	June 25	44	deep pool under bridge	6.5	4 hour overday	2.5	0.3	sand and small gravel	1 Ct 18 DV	--
	June 25	45	undercut bank down- stream of bridge.	6.5	4 hour overday	0.5	0.3	mostly sand some gravel less than 20 cm	1 Ct 2 Rb 9 DV 4 Co	--
TRIBUTARY of NALBEEHAIH CREEK at 4 mile	June 25	47	downstream of bridge in riffle	7.5	4 hour overday	0.25	0.7	cobble to 40 cm	3 Ct 1 DV	--
CUCIL CREEK, at old spur bridge along mainline WFO	June 29	70	100 m downstream of bridge, near west bank	--	6 hour overday	1.0	0.3	rip rap boulder	1 Ct 7 Co 4 DV	--
WEDEENE RIVER tributary, off Spur 69	July 1	81	pool behind instream log	9.8	5.5 hour overday	1.0	0.3	gravel to 15 cm	2 Ct 5 Co 4 DV	--
WEDEENE RIVER beside mile 10.5 of mainline	July 1	90	pool below barrier culvert on small tributary	11.0	4.0 hour overday	0.3	0.3	gravel 5 - 20 cm	1 Ct 1 Rb 2 DV	--
MAINSTREAM KITIMAI at Federal Fisher- ies fence site	July 23	168 to 171	sidechannel of main- flow and along bank of mainflow	approx. 7	20 hour overnight	--	--	TOTAL FISH CAPTURED: --	1 Ct 2 Rb 2 Co 28 DV	--
MAINSTREAM KITIMAI mile 14 beside the highway	July 23	172 to 175	in small side- channel	approx. 7	20.5 hr. overnight	--	--	TOTAL FISH CAPTURED: --	1 Ct 5 Co 9 DV	--

## ELECTROSHOCK SITES WHERE CUTTHROAT WERE CAPTURED.

LOCATION	DATE 1976	SITE NO.	WATER TEMP. (C)	SUBSTRATE	FISH	FIGURE NUMBER
TRIBUTARY OF CECIL CREEK, along Br W 61	June 29	1	9.5	Gravel and cobble to 30 cm	6 Ct 9 DV 16 Rb 83 + Co	9
DECEPTION CREEK, at mainline bridge	July 10	9	14.2	cobble and gravel	2 Ct 1 DV 7 Rb 14 Co	12

APPENDIX "C"

Gee Trap Results - Humphreys Creek

## APPENDIX C

## HUNPHRYS CREEK CEE TRAP RESULTS

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
AT MAINLINE BRIDGE	June 10	1	behind instream boulder	4.9	17 hr. overnight	0.7	eddy	5 - 10 cm gravel	2 Rb 2 DV	1
	June 10	2	undercut bank, near stump	4.9	17 hr. overnight	0.7	0.5	small gravel and sand	5 Rb 1 DV	2
	June 10	3	swift pool by cutbank	4.9	17 hr. overnight	1.0	1.0	sand	No fish	-
	June 10	4	cutbank, interface of sidechannel & main- stream	4.9	17 hr. overnight	0.3	interface	sand and small gra- vel	2 Rb 12 DV	3
	June 10	5	deep pool under bridge	4.9	17 hr. overnight	2.0	0.5	sand	6 DV	-
	June 10	6	side of mainflow, behind boulder	4.9	17 hr. overnight	0.7	eddy	6 - 10 cm gravel & sand	1 Rb 7 DV	--
	July 16	129	RESET OF # 1	6.5	7 hr. overday	-----	See # 1	-----	No fish	1
	July 16	130	RESET OF # 2	6.6	7 hr. overday	-----	See # 2	-----	No fish	2
	July 16	131	RESET OF # 4	6.5	7 hr. overday	-----	See # 4	-----	No fish	3
	July 16	129 A	RESET OF # 1	6.5	17 hr. overnight	-----	See # 1	-----	No fish	1
	July 16	130 A	RESET OF # 2	6.5	17 hr. overnight	-----	See # 2	-----	No fish	2
	July 16	131 A	RESET OF # 4	6.5	17 hr. overnight	-----	See # 4	-----	1 Co 8 DV	3

## APPENDIX C

## HUMPHRYS CREEK GEE TRAPPING RESULTS

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (meters/second)	SUBSTRATE	FISH	FLOUCE NUMBER	
RIGHT BELOW FALLS	June 10	7	behind instream boulder	4.0	16 hr. overnight	0.4	eddy	boulder	1 BV	-	
	June 10	8	pool at base of falls.	4.0	16 hr. overnight	2.0	1.0	cobble	trap lost	-	
	June 10	9	behind instream boulder	4.0	16 hr. overnight	0.4	eddy	cobble	No fish	-	
	June 10	10	behind instream boulder	4.0	16 hr. overnight	0.4	eddy	cobble	No fish	-	
AT HIGHWAY BRIDGE	June 10	11	in back eddy of bridge abutment	5.2	6 hr. overday	0.35	eddy	10 - 20 cm gravel	1 BB 4 BV	-	
	June 10	12	deep run in main channel flow	5.2	6 hr. overday	1.0	0.5	6 - 10 cm gravel & sand	1 BV	-	
	July 19	148	in shallow sidechannel behind rip-rap boulder	---	4 hr. overday	0.2	0.3	angular boulders on sand	No fish	-	
	July 19	149	pool at confluence of three side-channels	---	4 hr. overday.	1.25	eddy	1-15 cm gravel & sand	No fish	--	
	July 19	150	undercut bank next to pool	---	4 hr. overday.	0.4	eddy	sand and silt	No fish	-	
	July 19	151	undercut bank beside fast run.	---	4 hr. overday.	0.3	interface	sand, silt rocks	No fish	-	
	July 19	152	undercut bank, beside run	---	4 hr. overday.	0.5	0.5	cobble to 20 cm.	No fish	-	

## APPENDIX C

## HUMPHREYS CREEK

## CEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
MIDSECTION, quarter mile below Falls.	June 10	13	sandy, undercut bank	5.6	18.5 hr. overnight	0.2	0.5	sand	No fish	-
	June 10	14	near undercut bank.	5.6	18.5 hr. overnight	0.45	0.8	small gra- vels 10cm	No fish	-
	June 10	15	bouldery run in midstream	5.6	18.5 hr. overnight	0.4	0.65	gravel and cobble	1 Rb	-
	June 10	16	in log jam, between branches	5.6	18.5 hr. overnight	0.3	eddy	sand and gravel 5-10 cm	4 Rb 3 DV 3 Co	4
ACCESS ROAD below highway bridge.	June 10	17	behind log, 0.5 m from bank	6	17 hr. overnight	0.4	eddy	sand	No fish	-
	June 10	18	midstream in deep run	6	17 hr. overnight	1.5	0.9	sand	1 DV	-
	June 10	19	alder shaded eddy behind log.	6	17 hr. overnight	0.3	eddy	sand and gravel	1 DV 2 Rb	5
	June 10	20	in shade of over- hanging log.	6	17 hr. overnight	0.3	1.0	sand and gravel 3-10 cm	2 Rb	-



APPENDIX C HUNDPHYS CREEK GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP(C)	LENGH OF SET	DEPTH (meters)	VELOCITY (mtrs./sec)	SUBSTRATE	FISH	FIGURE NUMBER
ACCESS ROAD below High- way Bridge	July 16	126	RESET # 19	7	8 hr. overday	- - - -	- - Sec #	19- - - -	No fish	-
	July 16	127	RESET # 20	7	8 hr. overday	- - - -	- - Sec #	20- - - -	No fish	-
	July 16	128	undercut bank, shade of alder	7	8 hr. overday	0.35	0.2	sand and sunken log debris	No fish	-

APPENDIX "D"

Gee Trap Results - Nalbeelah Creek

APPENDIX D

NALBEELAH CREEK

CEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	TOTAL NUMBER
AT HIGHWAY BRIDGE	June 16	21	upstream of bridge under logs in side channel	6	15 hr, overnight	0.25	0.2	sand and sticks	1 DV	-
	June 16	22	confluence of side- channel & mainstem 20 m upstream of bridge	6	15 hr, overnight	0.6	0.5	gravel 10-20 cm	2 DV	-
	June 16	23	wear bank, under alder	6	15 hr, overnight	0.15	0.5	sand	1 DV	-
AT MAINLINE BRIDGE	June 16	24	downstream of bridge under alder on south bank	6	17.5 hr, overnight	0.2	0.3	small gravel	No fish	-
	June 16	25	upstream of bridge under alder, south bank	6	17.5 hr, overnight	0.4	0.3	small gravel	1 Sh 4 DV	-
BRIDGE ON BRANCH 20	June 16	26	sidechannel, up- stream of bridge	6	17 hr, overnight	1.5	still	silt	6 DV 1 Co 1 Gt	-
	June 16	27	deep pool, behind log in stream	6	17 hr, overnight	2.0	eddy	gravel	2 DV	-
	June 16	28	upstream of bridge, beside bridge abut- ment, south bank	6	17 hr, overnight	0.5	eddy	sand and gravel 6 - 10 cm	1 Sh 2 DV	-

## APPENDIX D

## CHIEF TRAPPING RESULTS.

## NAIREELAH CREEK

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (meters/sec)	SUBSTRATE	FISH	FISH CAPTURE
BRIDGE ON BRANCH 20	June 16	29	downstream of bridge, under alder on south bank.	6	17 hr. overnight	0.3	interface	small gravel	2 Mb 2 BV	--
	June 25	37	fast pool, under bridge	7	4.25 hr. overday	0.75	1.3	sand and gravel to 10 cm	No fish	-
	June 25	38	eddy behind bridge, abuttment downstream south bank	7	4.25 hr. overday	0.5	eddy	sand and gravel to 10 cm	No fish	-
	June 25	39	RESET OF # 26	7	4.25 hr. overday	-	-	-	1 <sup>o</sup> Co	-
	June 16	30	under stick debris, in fast water	6	17 hr. overnight	0.4	1.0	cobble 20-50 cm	1 LV	-
MIDSECTION ACCESS ROAD (about mile 15)	June 16	31	pool in mainflow under log debris	6	17 hr. overnight	2.0	0.7	cobb	No fish	-
	June 16	32	side of pool, in upwelling water	6	17 hr. overnight	0.3	0.4	cobb	No fish	-
	June 16	33	eddy behind wood debris, near bank	6	17 hr. overnight	0.75	eddy	sand and gravel to 20 cm	No fish	6
	June 25	40	RESET OF # 33	7	4 hr. overday	-	-	-	1 RB 1 BV	6
	June 25	40	RESET OF # 33	7	4 hr. overday	-	-	-	1 RB 1 BV	6

APPENDIX D NALBEELAH CREEK GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
MIDSECTION ACCESS ROAD (about mile 1.5)	June 25	41	pool under logs at base of riffle	7	4 hr. overday	1.5	0.6	cobbles to 40 cm	No fish	-
	June 25	42	shallow pond under log jam cut off from mainflow	7	4 hr. overday	0.5	still	silt	22 Co 2 Rb	-
BRIDGE AT TRIBUTARY CONFLUENCES (about mile 2)	June 16	34	deep pool under bridge	7	17 hr. overnight	2.5	0.3	sand and small gravel	14 DV	-
	June 16	35	behind log of bridge abutment	7	17 hr. overnight	1.0	eddy	gravel	No fish	-
	June 16	36	humic back channel upstream of bridge	7	17 hr. overnight	0.4	still	silt and mud	8 Co 13 DV	-
	June 25	43	RESET OF # 34 baited with anisced oil	6.5	4 hr. overday	- - - -	See # 34	- - - -	No fish	-
	June 25	44	RESET OF # 34 baited with roe	6.5	4 hr. overday	- - - -	See # 34	- - - -	10 DV 1 Ct	-
June 25	45	undercut bank, downstream of bridge	6.5	4 hr. overday	0.5	0.3	mostly sand some gravel less than 20 cm	9 DV 2 Rb 1 Ct 4 Co	--	

APPENDIX D NALBEELAH CREEK GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs./sec)	SUBSTRATE	FISH	FIGURE NUMBER
BRIDGE AT TRIBUTARY CONFLUENCE (about mile 2)	July 16	132	RESET OF # 34	7	18 hr. overnight	-	SEE # 34	-	No fish	-
		133	RESET OF # 34	7	18 hr. overnight	-	SEE # 34	-	No fish	-
		134	RESET OF # 34	7	18 hr. overnight	-	SEE # 34	-	7 DV 2 Co	-
TRIBUTARY OF NALBEELAH, 4 miles from mouth. (Access from Hirsch main- line)	July 21	153 to 160	sets to capture DV for sample, most sets downstream of bridge	-	16.5 hr. overnight	-	-	TOTAL FISH CAPTURED	8 Co 7 DV	-
		46	small pool, above bridge	7.5	4 hr. overday	0.5	0.2	5 - 10 cm gravel	No fish	-
		47	downstream of bridge, humic stain, lots of algae	7.5	4 hr. overday	0.25	0.7	cobble to 40 cm	1 DV 2 Co	-
NALBEELAH, 4.5 m. from mouth (Access from Hirsch main- line)	June 25	48	eddy behind boulder	4.5	4 hr. overday	0.75	eddy in 1m/sec	boulder to 1 m	No fish	-
		49	below riffle, behind boulder	4.5	4 hr. overday	0.5	eddy	sand to 1 m boulder	No fish	-
At mouth, on sidechannel of Nitinat	July 21	161 to 164	in rip-rap or on silty bottom	-	17 hr. overnight	-	-	TOTAL FISH CAPTURED:	4 DV 1 Ch (16 sculpin in 1 trap)	-

APPENDIX "E"

Gee Trap Results - Chist Creek

**S. P. NATLEVIK**

APPENDIX E GLEIST CREEK GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
NEAR CONFLUENCE with Kitimat	June 26	50	pool eddy along the shore	5.5	9 hr. overday	1.5	eddy	sand and small gravel	1 DV	-
	June 26	51	interface along bank, near branches	5.5	9 hr. overday	0.5	1.0	sand and cobble 15-40 cm	1 RL	7
	June 26	52	by log, still backchannel	5.1	8.5 hr. overday	0.75	still	silt, sand	No fish	-
MIDSECTION, near mile 24.5 of logging road	June 26	53	behind instream boulder	5.1	8.5 hr. overday	0.35	eddy in 1.2m/sec	boulder to 50 cm	No fish	--
	June 26	54	deep pool in back channel	5.1	8.5 hr. overday	1.5	0.6	sand over bedrock	No fish	-
	June 26	55	undercut bank, over- hung with roots	5.1	8.5 hr. overday	0.75	eddy	sand and gravel to 40 cm	No fish	-
	June 26	56	pool next to under- cut bank	5.1	8 hr. overday	1.5	eddy	sand and gravel to 10 cm	No fish	-
	June 26	57	in swift run	5.1	8 hr. overday	2	1.2	sand and cobble to 50 cm	1 DV	-
	June 26	58	behind boulder in cascade	5.1	8 hr. overday	1.0	1.2	cobbles	1 DV	-
	June 26	59	cutbank, alder cover roots in the water	5.1	8 hr. overday	0.3	interface	sand and gravel to	No fish	44



APPENDIX "F"

Gee Trap Results - Cecil Creek

S. P. HATLEVIK

APPENDIX F CECIL CREEK GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
TRIBUTARY 3.5 miles from mouth, along Br W61	June 29	60	upper section of tributary, cascade under logs.	9.5	6.5 hr. overday	0.2	eddy	cobbles 40-60 cm	No fish	-
	June 29	61	upper section of tributary, at under- cut bank.	9.5	6.5 hr. overday	0.3	eddy in lm/sec	cobbles 40-60 cm	No fish	-
	June 29	62	at tributary conflu- ence with Cecil	9.5	6.5 hr. overday	0.5	1.0	Gravel to 20 cm	No fish	-
	June 29	63	at confluence with Cecil, undercut bank	9.5	6.5 hr. overday	0.5	slow eddy	sand and Gravel to 5 cm	No fish	-
	June 29	64	on Cecil, at bank near alder	9.5	6.5 hr. overday	0.5	1.0	Gravel to 20 cm	No fish	-
	June 29	65	upstream of bridge, over Cecil on Br W61 under alder	9.5	6.5 hr. overday	0.2	0.5	Gravel over 20 cm	No fish	-
I MAINLINE Br W60 bridge	June 29	66	under the bridge, near west bank	-	6.5 hr. overday	0.5	0.2	Gravel to 30 cm	No fish	-
	June 29	67	5m upstream of bridge, west bank	-	6.5 hr. overday	1.0	0.2	silty	1 Co 1 RB	-
	June 29	68	5m upstream of bridge, east bank	-	6.5 hr. overday	1.0	0.2	silty	No fish	-

APPENDIX F CECIL CREEK CEE TRAPPING RESULTS.

LOCATION	DATE	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
AT MAINLINE BRIDGE, between W1 and W60 bridge.	June 29 1976	69	under the bridge, fast water	-	6.5 hr. overday	0.3	1.2	sand and small gravel to 3 cm	No fish	-
	June 29	70	100 m downstream of bridge, near west bank.	-	6 hr. overday	1.0	0.3	rip rap	7 Co 1 Cu 4 DV	-
	June 29	71	just upstream of bridge, west bank	-	6 hr. overday	0.3	0.3	gravel to 20 cm	2 DV 7 Co	-
AT OLD SPUR BRIDGE, near large instream log.	June 29	72	20 m upstream of bridge, near large instream log.	-	6 hr. overday	1.0	0.1	silt	1 DV 1 Co	-
	June 29	73	east bank, near instream log.	-	6 hr. overday	1.5	0.1	sand and silt	6 Co	-
	June 29	74	east bank, downstream of bridge.	-	6 hr. overday	0.5	0.6	sand	3 Co 5 DV	-
	June 29	75	near log, and stump, west bank, upstream of bridge.	-	6 hr. overday	0.5	eddy	sand and silt	1 Co 3 DV 1 NB	-
OLD MAINLINE W1 Bridge.	June 29	76	west bank, in eddy near Set # 75	-	6 hr. overday	0.5	eddy	sand and silt	4 DV 2 NB 1 Co	-
	June 29	77	upstream of bridge, at sidechannel confluence.	-	6 hr. overday	0.75	1.0	gravel to 20 cm	1 Co 2 NB 4 DV	-

APPENDIX F CECIL CREEK CEE TRAPPING RESULTS.

LOCATION	DATE	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
OLD MAINLINE BRIDGE WI	June 29 1976	7 <sup>o</sup>	upstream of bridge, east bank, near shore.	-	6 hr. overday.	0.4	interface	gravel to 20 cm	1 N6 3 DV	-

APPENDIX "G"

Gee Trap Results - Deception Creek  
- Goose Creek  
- Unnamed Creek

DECEPTION CREEK, GOOSE CREEK,  
AND UNNAMED CREEK

GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGUR NUMBER
UNNAMED CREEK north of Rumphrys Creek	July 10	101	Deep pool, under bridge	9.2	6.5 hr. overday	2.0	0.3	silt and sticks	16 Co 2 DV	-
	July 10	102	Side of pool, under bridge.	9.2	6.5 hr. overday	1.0	still	silt	2 Co	-
	July 10	103	Side of pool down- stream side of bridge	9.2	6.5 hr. overday	0.4	0.3	silt and cobble 20 - 30 cm	No fish.	-
DECEPTION CREEK at mainline bridge.	July 10	104	pool, upstream side of bridge	14.2	4.5 hr. overday	0.75	still	silt and gravel 0.5-15 cm	4 Co	--
	July 10	105	along bank in riffle.	14.2	4.5 hr. overday	0.3	1.3	sand and gravel to 15 cm	1 Co 2 Rb	12
	July 10	106	along bank with overhanging shrubs.	-	2.0 hr. overday	0.5	0.6	sand and gravel .5-10 cm	No fish	-
GOOSE CREEK at mainline bridge	July 10	107	behind boulder, midstream	-	2.0 hr. overday	0.75	0.6	large boul- der on sand	No fish	-

APPENDIX "H"

Gee Trap Results - Wedeene River

APPENDIX H WEDENE RIVER GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FISH SPECIES
MAINSTREAM, near tributary on spur of WD	July 1	79	along bank in mainflow	9.0	6 hr. overday	0.3	1.0	sand and cobble to 30 cm	NO FISH (Co fry observed)	-
	July 1	80	interface between mainflow and side channel	9.0	6 hr. overday	0.6	0.6	sand and gravel to 25 cm	No fish	-
TRIBUTARY OFF SPUR WD	July 1	81	pool behind instream log.	9.2	5.5 hr. overday	1.0	0.3	Gravel 1 - 15 cm	2 CF 5 SD 1 DV	-
	July 1	82	near undercut bank, overhanging vegeta- tion.	9.8	5.5 hr. overday	0.4	0.6	Gravel 1 - 15 cm	4 Co 1 No	-
MAINSTREAM, at railway bridge.	July 1	83	Deep run in main flow.	5.0	5.75 hr. overday	1.0	0.6	Gravel to 30 cm and upstream silt	No fish.	-
	July 1	84	at interface behind boulder	5.0	5.75 hr. overday	0.3	1.3	sand and cobble to 20 cm	No fish	-
MAINSTREAM, mile 0.5 off Branch WD at water hole	July 1	85	eddy behind stump	9.5	4.25 hr. overday	0.3	eddy	sand and silt	1 DV (Co fry observed)	-



APPENDIX H WEDEENE RIVER CEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (cm/soc)	SUBSTRATE	FISH	FIGUR NUMBER
MAINSTEM, mile 0.5, off Br 48 at water hole.	July 1	86	interface between mainflow and sidechannel	8.5	4.25 hr. overday	0.3	0.3	sand and gravel 0.5 - 2 cm	1 BV	-
	July 1	87	in log jam.	8.9	4.0 hr. overday	0.8	eddy	silt	? Co 1 BV	-
	July 1	88	pool under bridge	8.9	4.0 hr. overday	0.9	0.2	silt	1 BV	-
MAINSTEM, beside mile 10.5 of mainline	July 1	89	tail of riffle in sidechannel	8.9	4.0 hr. overday	1.5	still	sand and gravel 1 - 15 cm	? Co 1 BV	-
	July 1	90	pool below barrier culvert on small tributary.	11.0	4.0 hr. overday	0.3	0.3	Gravel 5 - 20 cm	1 Ct 1 Nb ? BV	-
	July 1	91	edge of main flow, along shore	8.0	4.0 hr. overday	0.25	0.5	sand and gravel 15-30 cm & instream root	No fish	-
	July 1	92	edge of main flow, along shore	8.0	4.0 hr. overday	0.5	1.0	silt to 10 cm gravel	No fish	-

APPENDIX H WEDEENE RIVER GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
TRIBUTARY at mile 11.0 of Mainline	July 1	93	pool at barrier culvert on tributary crossing mainline	8	3.5 hr. overday	1.5	0.3	sand, gravel and rip-rap	6 DV 4 Co	-
RAINY CREEK, 50 mainline bridge.	July 1	94	pool between shore and main flow	5.5	3.5 hr. overday	1.0	0.7	gravel and cobble to 40 cm	No fish	-
	July 1	95	interface of side channel and main flow	5.5	3.5 hr. overday	0.6	1.0	sand and angular gravel 20-40	No fish	-
MAINSTEM, at mile 12.0 of mainline.	July 1	96	Backeddy behind rip-rap along shore.	8	3.5 hr. overday	1.5	eddy	angular rip-rap 40-80 cm & sand	1 DV	-
MAINSTEM, bridge on branch 1000	July 1	97	interface behind boulder	8.5	3.5 hr. overday.	0.3	0.6	sand, gravel and boulder to 60 cm	1 DV	-
	July 1	98	along shore, under the bridge	8.5	3.5 hr. overday	0.5	0.6	sand over angular boulder to 80 cm	No fish	-
SIDEBRANCH of mainstem at mile 14.25 of Mainline.	July 1	99	beside bank, east side.	8.0	3.5 hr. overday	0.4	0.3	sand and instream logs.	2 No 3 DV	-
	July 1	100	In midstream, behind boulder	8.0	3.5 hr. overday	0.5	0.3	sand and cobble to 40 cm	1 DV	-

APPENDIX I

Gee Trap Results - Little Wedeene River

APPENDIX I LITTLE WEDEENE RIVER GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
SIDE CHANNEL near mouth	July 11	109	in old beaver dam	8	5.75 hr. overday	0.3	0.6	silt covered gravel and sticks	14 Co	-
	July 11	109	under cut bank	8	5.75 hr. overday	0.75	0.2	silty gravel 0.5-10 cm	No Fish	-
SIDETCHANNEL between DIC and Little Weedens	July 11	110	Base of bridge abutment	6	5 hr. overday	1.0	0.6	gravel to 20 cm	No fish	-
	July 11	111	at interface between sidechannel and humic stained tributary	6	5 hr. overday	0.3	0.6	sand	No Fish (Co fry observed)	-
	July 11	112	humic stained tributary under logging bridge.	6	5 hr. overday	0.2	0.3	sand and cobble to 40 cm	No Fish (Co fry observed)	-
MAINSTEM, at Railway bridge.	July 11	113	back eddy, behind boulder	6	4.75 hr. overday	0.5	1.3	cobble on sand	No Fish	-
	July 11	114	behind sticks, boulders and debris, beside bank.	6	4.75 hr. overday	0.3	1.3	cobble on sand	No Fish (Co fry observed)	-
HUMIC Side channel near railway bridge	July 11	115	still sidechannel pool, downstream of bridge.	-	4.75 hr. overday	0.75	still	silt and sticks	? Co	-

APPENDIX I LITTLE WEDEENE RIVER GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
ROAD ACCESS, quarter mile below DANL CREEK.	July 11	116	interface between main flow and shore	6	4.5 hr. overday	0.40	eddy	cobble on sand	No Fish	-
	July 11	117	still pool, by wood debris	6	4.5 hr. overday.	0.40	still	sand and small gravel	Trap Lost	-
	July 11	118	eddy behind large boulder	-	4.25 hr. overday.	0.50	eddy	silt and boulders	No Fish	-
AT MARLINE BRIDGE.	July 11	119	In log jam.	6	4.25 hr. overday	0.5	eddy	sand and silt	No Fish	-
	July 11	120	pool at end of riffle, in small side channel	6	4.25 hr. overday	1.0	0.6	cobble to 40 cm	No Fish	-
	July 11	121	beside boulder at the bank.	6	4.25 hr. overday	0.75	0.6	boulder on sand	No Fish	-
DUMBYES CREEK	July 13	122	deep run, mid - channel	6.8	5.25 hr. overday	1.5	1.0	sand and gravel to 15 cm, bldg.	No Fish	-
	July 13	123	interface behind large boulder	6.8	5.25 hr. overday	0.3	eddy	sand between boulders.	No Fish	-
	July 13	124	pool below a cascade	6.0	5.25 hr. overday	0.75	1.2	boulder on cobble, gravel	No Fish	-
	July 13	125	Behind boulder, near bank	6.0	5.25 hr. overday	0.5	1.0	gravel boulder.	No Fish	-

APPENDIX "J"

Gee Trap Results - Kitimat Mainstem

## APPENDIX J

## KITTLEMI MAINSTEM,

## SEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER	
MAINSTEM, BELOW MEDICINE.	July 17	135	side channel, near dyke, bridge in mainstem	approx. 7	4 hr. overday	0.2	0.7	cobble, fine gravel	No Fish	-	
	July 17	136	confluence of humic stain creek and mainstem	approx. 7	4 hr. overday	0.3	still	gravel, 1 - 5 cm	No Fish	-	
	July 17	137	at bank on mainstem	approx. 7	4 hr. overday	0.25	0.3	gravel, 1-20 cm	No Fish	-	
	July 17	138	riffle in side channel	approx. 7	4 hr. overday	0.4	0.6	gravel, 1 - 15 cm	No Fish	-	
	July 17	139	edge of mainstem, under willows.	approx. 7	4 hr. overday	0.4	0.3	sand and gravel to 10 cm	No Fish	-	
	July 17	140	in log jam, side of mainstem	approx. 7	4 hr. overday	0.75	still	silt	No Fish	-	
	July 17	141	beside instream stump	approx. 7	4 hr. overday	0.75	1.0	gravel, 5 - 15 cm	No Fish	-	
	July 17	142	confluence of two side channels	approx. 7	4 hr. overday	1.0	1.0	gravel, 1 - 5 cm	No Fish	-	
	July 17	143	mouth of Hirsch Creek	approx. 7	4 hr. overday	0.75	0.3	sand	No Fish	-	
	July 17	144	old logging bridge at Cable car.	approx. 7	4 hr. overday	0.75	1.0	sand, silt and branches	No Fish	-	
	July 17	145	mouth of Little Medicine in log jam	approx. 7	4 hr. overday	0.75	eddy	small gre- vel and sand	No Fish	-	
	July 17	146	mouth of Little Medicine behind stump	approx. 7	4 hr. overday	0.3	0.3	silt, sand and silt gravel	No Fish	-	
									No Fish	-	59

## APPENDIX J

## KITIMAT MAINSTEM

## GEE TRAPPING RESULTS.

LOCATION	DATE 1976	SET NO.	SITE	WATER TEMP (C)	LENGTH OF SET	DEPTH (meters)	VELOCITY (mtrs/sec)	SUBSTRATE	FISH	FIGURE NUMBER
MAINSTEM below WEDGEMAN RIVER COURT	July 17	147	mouth of Wedgeman, at bank behind stump.	approx. 7	4 hr. overday.	0.5	eddy	sand, silt	No fish	-
AT 17 MILE highway bridge	July 23	165 to 167	along bank under the bridge and in log jam	approx. 7	20 hr. overnight	--	--	TOTAL FISH --CAPTURED:	2 BV 6 Co	-
ACCESS ROAD at Federal Fisher- lee fence site	July 23	168 to 171	side channel of main river and along bank of main flow.	approx. 7	20 hr. overnight	--	--	TOTAL FISH --CAPTURED:	2 Rb 1 St 20 BV 2 Co	-
MILE 14 of Main stem beside the highway.	July 24	172 to 175	in side channel.	approx. 7	20.5 hr. overnight	--	--	TOTAL FISH --CAPTURED:	5 Co 12 BV 1 St	-
MILE 15 of Mainstem, be- side the highway.	July 24	176	beside bank in rip - rap	approx. 7	20 hr. overnight	2.0	interface	rip rap 40-100 cm boulder	5 Rb 2 Co	-
	July 24	177	beside bank in rip rap	approx. 7	20 hr. overnight	2.5	eddy	angular boulder	3 Rb 2 Co	-
	July 24	178	beside bank in rip rap	approx. 7	20 hr. overnight	1.0	interface	angular boulder	1 Co	-
	July 24	179	end of riprap, under alder branches	approx. 7	20 hr. overnight	1.5	interface	sand & boulder 40-80 cm.	4 Rb	-
flooded gravel pit beside the highway	July 25	180 & 181	at bank of the pond	-	20 hr. overnight	0.6	still	gravel	1 kokanee gilled in the trap entrance	-



APPENDIX "K"

Electroshocking Results for  
all Shock Sites

APPENDIX K ELECTROSHOCKING RESULTS FOR ALL SHOCK SITES.

LOCATION	DATE 1976	SITE NO.	WATER TEMP. (C)	SUBSTRATE	FISH	COMMENTS	FIGURE NUMBER
tributary of Cecil Creek, Long Dr W61.	June 29	1	9.5	Gravel and cobble to 30 cm	33 + Co (fry & smolts) 9 DV 6 CL 16 RB	- captured 3 Brook Lamprey - humic stained	9
sidechannel of Kedecne, approx. 1 mile above mainline bridge.	July 7	2	4	sand and mud around cobble, a few boulders	2 DV 4 + Co fry	- one of the Coho fry was an albin, in- dicating spawning probably occurs this far upstream	-
sidechannel of Kedecne, approx. 1 mile above confluence with Aveling creek.	July 7	3	4	cobble and fine gravel	5 DV	- water glacial blue - fish from 4.5 to 19 cm	-
sidechannel of Aveling creek, approx. 0.5 mile above confluence with Kedecne.	July 7	4	5	cobble in riffle, slower water had silt and sand.	9 DV 2 Co fry	- water crystal clear	11
left side channel of Little Kedecne River, approx. 4 miles above mouth of Dahl Creek	July 7	5	4.5	cobble to 40 cm	3 DV	- nearly clear water. Silt in lower main- stem from Dahl creek.	-
lower side and back channel of Luked Creek, approx. 1 mile above con- fluence with Little Kedecne	July 7	6	4.5	fine gravel in stream, silt in back channel.	No Fish	- extensive beaver activity along Luked Creek.	-
unnamed creek north of Lampreys Creek.	July 7/10	7	8	sand and gravel to 15 cm	2 lampreys	- fish captured in two traps lower down on creek. (Set # 101 to 103)	-

APPENDIX K ELECTROSHOCKING RESULTS FOR ALL SHOCK SITES.

LOCATION	DATE 1970	SITE NO.	WATER TEMP (C)	SUBSTRATE	FISH	COMMENTS	FIGURE NUMBER
Rally Creek, side channel above mainline bridge.	July 10	8	7	cobble to 20 cm on sand and silt.	1 + Co 1 Ch 1 DV 1 Rb	- tributary of the lower Wadeana River	10
DECEPTION Creek, at mainline bridge.	July 10	9	14.2	cobble and gravel.	2 Ct 7 Rb 14 Co 1 DV 2 lamprey	- humid stain - warmest water temp- erature measured on Nitinat system.	12
	July 21	12	--	cobble and gravel.	20 + Co 15 Rb 3 + lamprey	- rechecked to get Rainbow for sample	12
DECEPTION Creek, above barrier falls, near lake.	July 21	11	12.5	angular cobble to 20 cm	16 Rb	- lake stock	-
Mainstem Kitimat sidechannel at Mile 16	July 12	10	--	cobble	9 Ch 11 Co 2 Rb	- largest number of chinook fry yet taken.	-
UPPER KITIMAT MONEY CREEK, 1 mile from mouth	August 22	13	6.5	mostly cobble to 30 cm, some small gravel	1 DV 2 Ch 2 Rb 1 Co	- water crystal clear - siliceous green algae	13
Hunter Creek sidechannel	August 22	14	5	large cobble to 50 cm	5 DV	- very unstable creek, wide flood plain	14

## APPENDIX K

## ELECTROSHOCKING RESULTS FOR ALL SHOCK SITES.

LOCATION	DATE 1976	SITE NO.	WATER TEMP (C)	SUBSTRATE	FISH	COMMENTS	FIGURE NUMBER
HOULT Creek	August 22	15	5.5	cobble	No Fish	- site above barrier falls	-
DAVIES Creek	August 22	16	6.2	gravel, some bedrock	No Fish	- site above barrier falls	-
Sidechannel of mainstem, above cascades above Davies Creek.	August 22	17	6.9	gravels, some sand	5 DV 2 Co (smolt and fry)	- The cascades above the confluence of Davies Creek are not a barrier to headwater fish.	15
Sidechannel of mainstem, 1 mile below barrier falls.	August 22	18	6.5	cobbles to 20 cm	9 + DV most were fry size	- water silty	16
Chict Creek sidechannel about 0.5 miles above main tributary.	August 22	19	--	sand and gra- vel, some cobble to 40 cm	3 Ch 1 + DV	- water clear.	-

APPENDIX "L"

Beach Seining Results

BEACH SEINING RESULTS.  
ADULT TROUT CAPTURED BY FISHERIES AND MARINE  
SERVICE CHINOOK TAGGING CREW.

APPENDIX L

DATE	LOCATION OF SET	NUMBERS AND SPECIES	SEX	APPROX. WEIGHT	COMMENTS.
June 12	1/2 mile above town bridge at Coho Flats.	1 ST	F	8 lbs.	Net damage on operculum Silver.
		1 ST	F	10 lbs.	
	At sandhill, Eurocan water intake.	1 ST	M	8 lbs.	dark. kelt.
		1 ST	F	12 lbs.	
	below sandhill	1 ST	F	9 lbs.	kelt.
June 14	Coho Flats.	1 ST	M	6 lbs.	kelt.
		1 ST	M	6 lbs.	
June 16	Coho Flats.	1 ST	M	7 lbs.	scale sample taken, fish released.
June 21	Upper Coho Flats.	1 ST	M	12 lbs.	kelt.
June 23	Upper Coho Flats.	1 ST	M	12 lbs.	kelt. 99 cm.
June 24	Upper Coho Flats.	1 DV	-	1 lb.	
	Below sandhill.	3 DV	-	1 lb. ea	
July 2	Coho Flats.	1 ST	M	7 lbs.	kelt, 77 cm.
July 7	Upper Coho Flats.	1 DV	F	1.5 lbs.	41 cm, scale sample
July 12	Coho Flats.	1 ST	M	7 lbs.	large open wound on tail, very thin kelt.

BEACH SEINING RESULTS.  
ADULT TROUT CAPTURED BY FISHERIES AND MARINE  
SERVICE CHINOOK TAGGING CREW.

APPENDIX I CONT'D

DATE	LOCATION OF SET	NUMBER AND SPECIES	SEX	APPROX. WEIGHT	COMMENTS, LENGTH
July 13	Coho Flats	1 DV	-	-	
	Below sandhill	3 DV	2 - F 1 - M	1.5 lbs. each	Both female fish healthy & fat male fish had tape worms in stomach. 3 scales samples.
July 16	Below sandhill	2 DV	1 - F 1 - M	1.5 lbs. each	2 scale samples.
	Below sandhill	2 Ct	2 - F	2 lbs. each	45 cm each. One fish contains partly digested herring.
July 20	Below sandhill	1 Ct	F	2 1/2 lbs.	47 cm.
July 21	Below sandhill	3 Ct	3 - F	1 3/4 to 2 lbs.	41 - 45 cm. One fish had stomach full of round worms.
July 21	Below Eurocan outfall	1 Ct	-	-	46.5 cm.
July 22	Below Eurocan outfall	1 DV	-	-	37 cm.
July 23	Upper Coho Flats.	1 Ct	-	-	52 cm.
	Below sandhill.	1 DV	-	-	30 cm.
July 26	Below sandhill.	1 Ct	-	-	40 cm.
	Coho Flats.	1 Ct	-	-	30 cm.

BEACH SEINING RESULTS.  
ADULT TROUT CAPTURED BY FISHERIES AND MARINE  
SERVICE CHINOOK TAGGING CREW.

APPENDIX L CONT'D

DATE	LOCATION OF SET	NUMBER AND SPECIES	SEX	APPROX. WEIGHT	COMMENTS, LENGTH
July 26	Upper Coho Flats	1 DV	-	-	30 cm
July 27	Upper Coho Flats	2 DV 1 Ct	- -	- -	30 cm each 37 cm

TOTAL TROUT SEINED:      12 ST   kelts  
                                 23 DV  
                                 10 Ct



APPENDIX "M"

Figures



Surface

Underwater



Figure 1. Gee trap set 1.  
Example of rainbow rearing  
site. Humphrys Creek at  
mainline bridge.

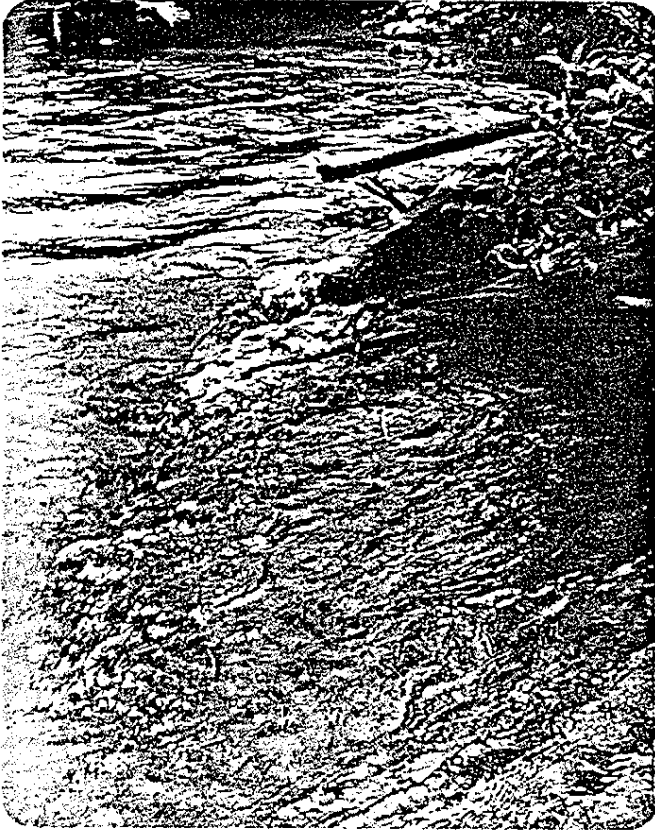


Figure 2. Gee trap set 2.  
Example of rainbow rearing  
site. Humphrys Creek at  
mainline bridge.

Surface

Underwater



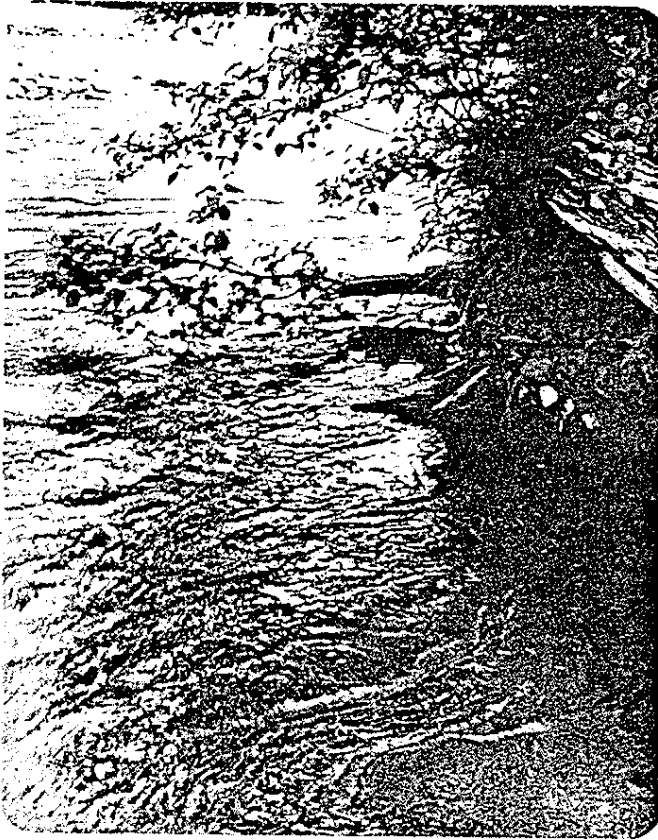
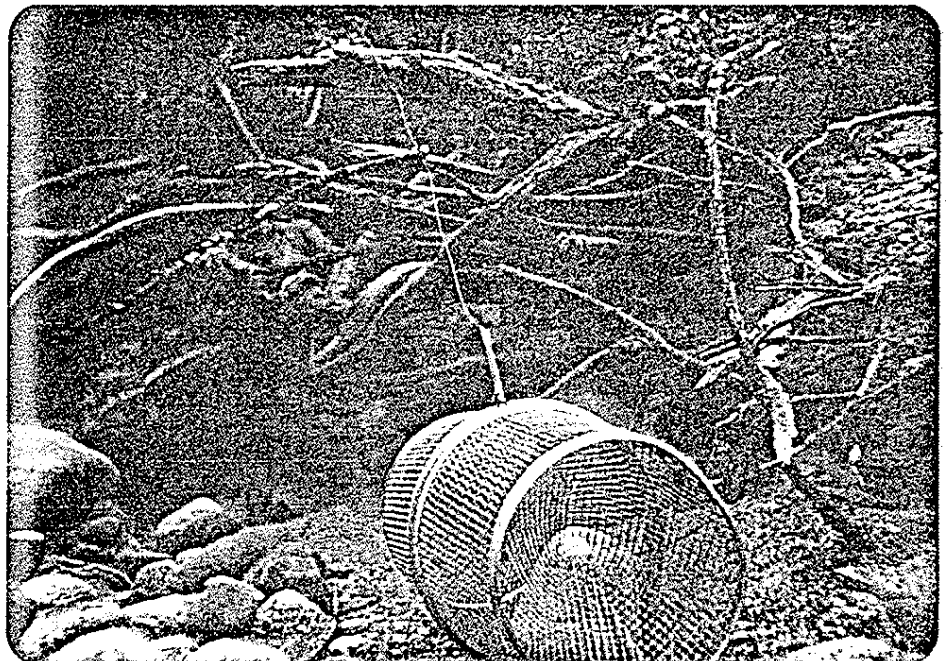
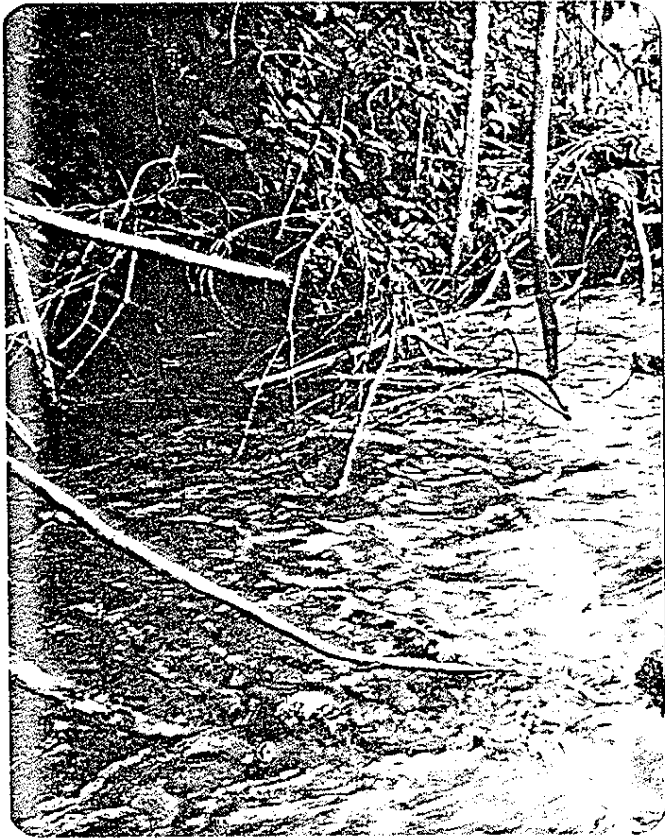


Figure 3. Gee trap set 4.  
Example of rainbow rearing  
site. Humphrys Creek at  
mainline bridge.

Surface

Underwater

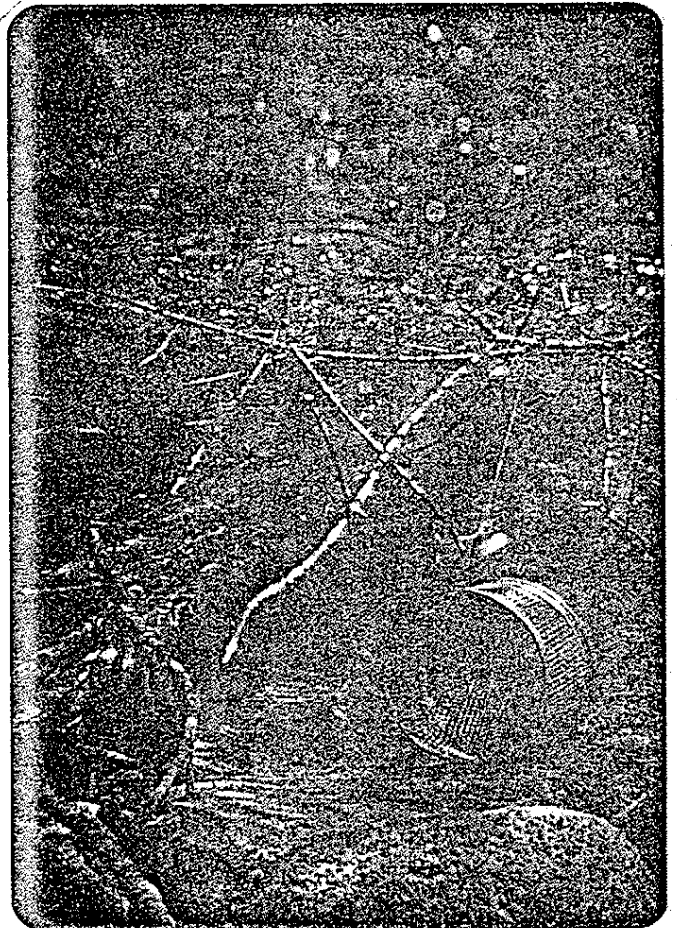




Surface

Figure 4. Gee trap set 16.  
Example of rainbow rearing  
site. Humphrys Creek midsection,  
 $\frac{1}{4}$  mile below falls.

Underwater



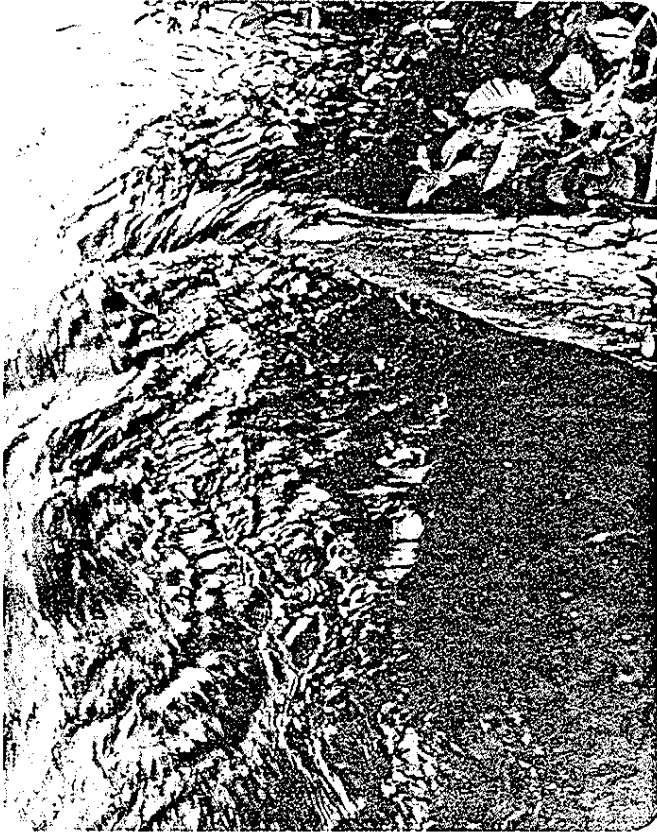


Figure 5. Gee trap set 19.  
Example of rainbow rearing site.  
Humphrys Creek access road below  
highway bridge.

Surface

Underwater

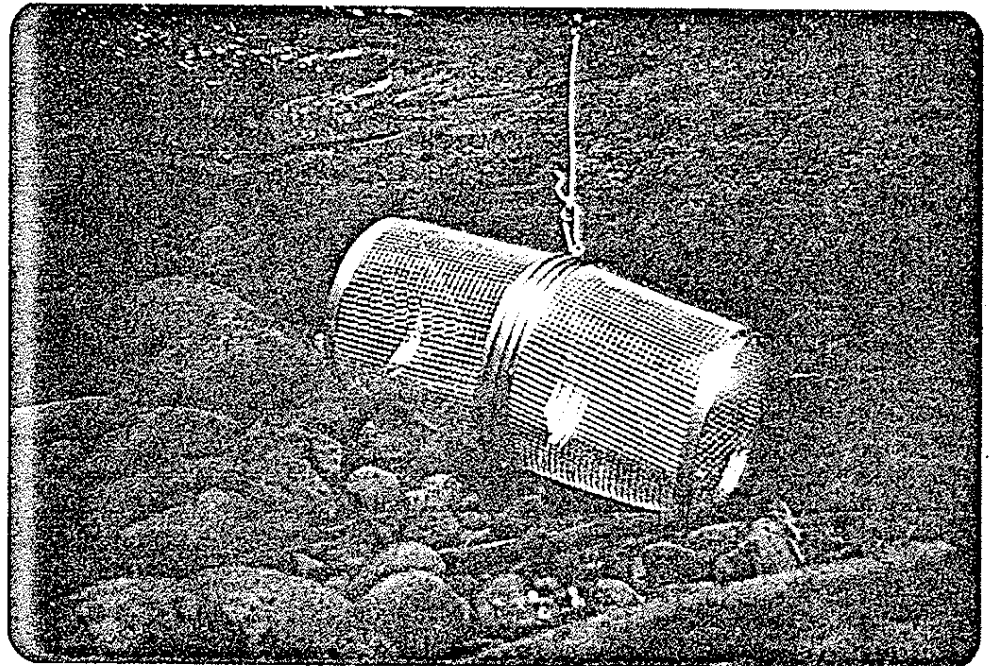


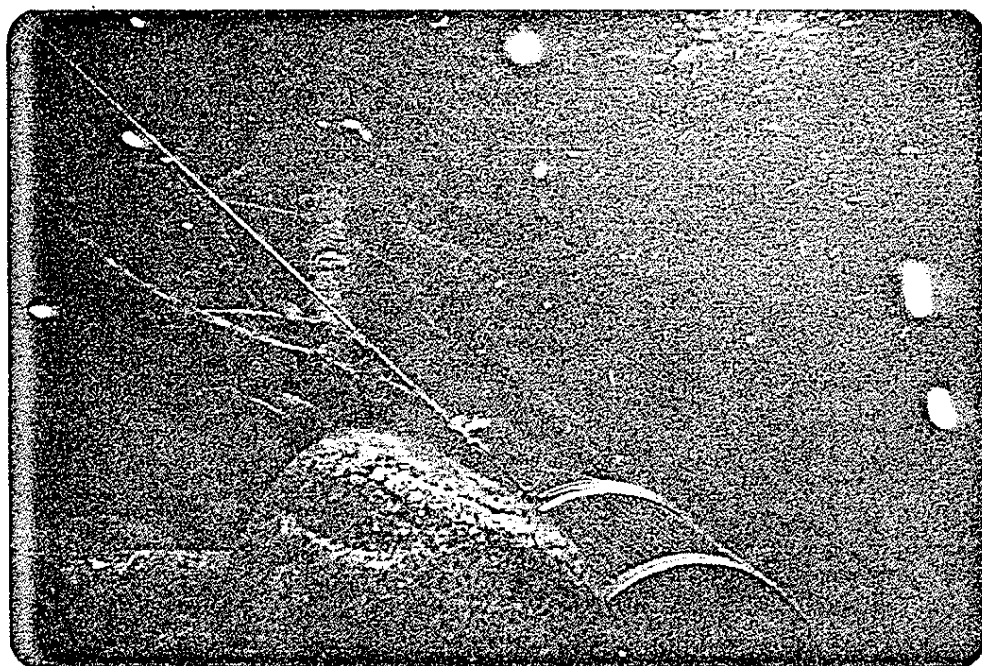




Figure 6. Gee trap set 33,40.  
Example of rainbow rearing site.  
Nalbeelah Creek midsection access  
road about mile 1.5.

Surface

Underwater



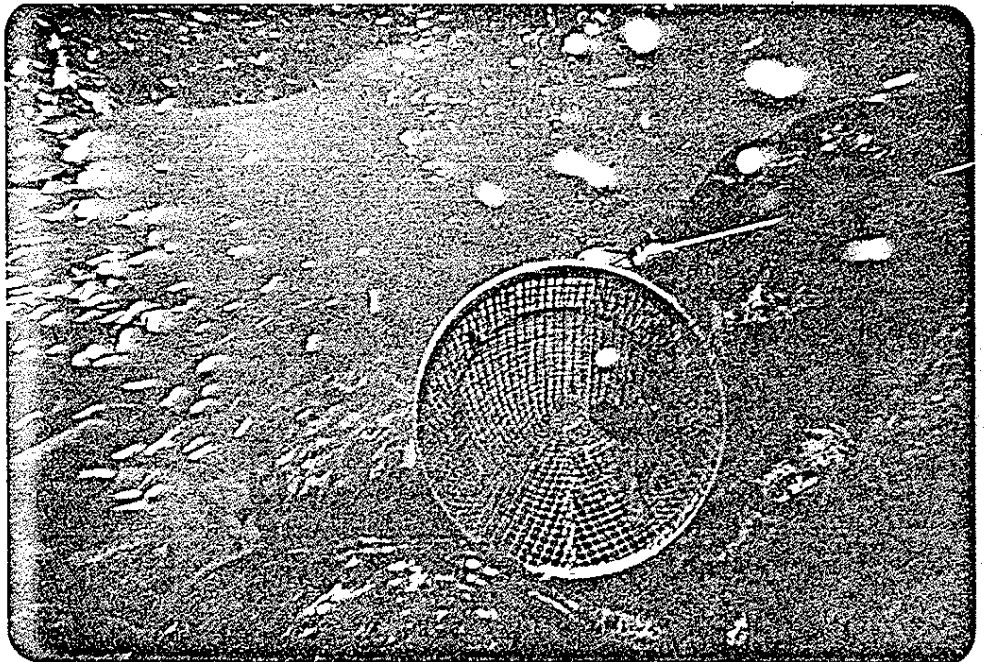
S. P. HATLEVIK



Figure 7. Gee trap set 51.  
Example of rainbow rearing  
site. Chist Creek near  
confluence with the Kitimat.

Surface

Underwater





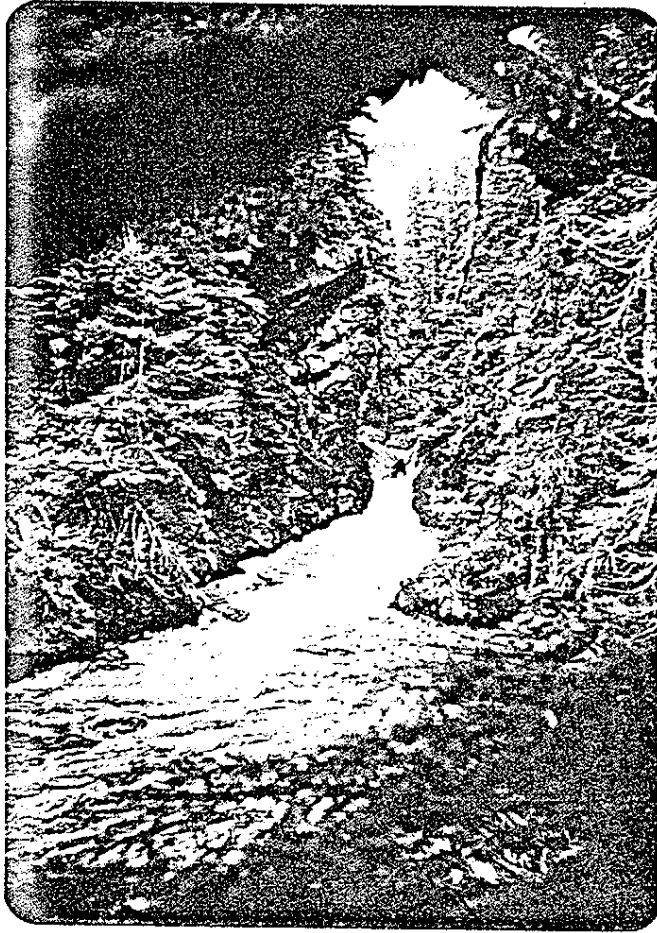


Figure 8. Barrier falls on the Little Wedeene quarter mile above the mouth of Dahl Creek.

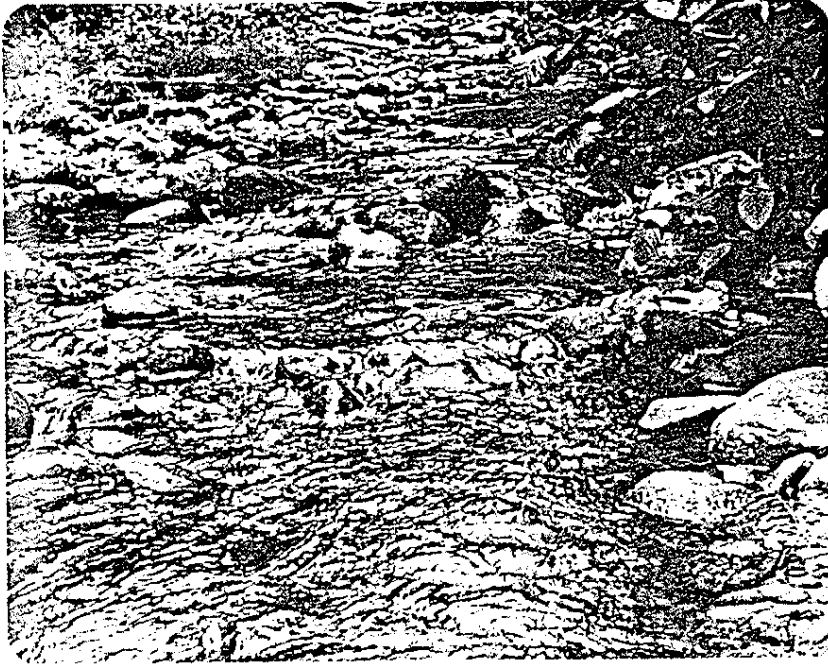


Figure 9. Electroshock site 1. Tributary of Cecil Creek along Branch W61.



Figure 10. Electroshock site 8, sidechannel of Raley Creek, tributary of Wedeene River

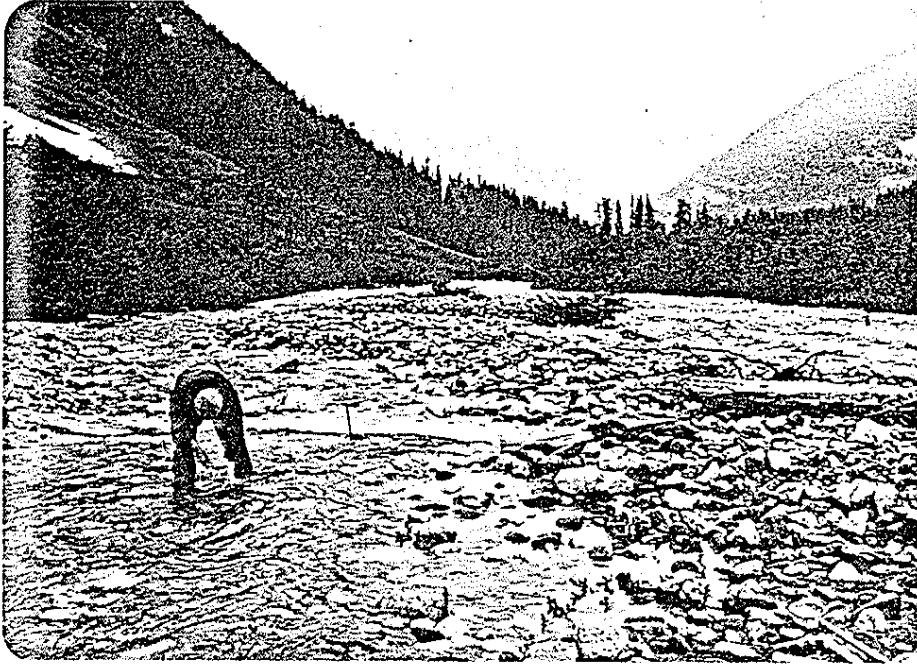


Figure 11. Electroshock site 4. Sidechannel of the upper Wedeene, about one mile above the confluence of Aveling Creek.



Figure 12. Electroshock sites 9 and 12. Deception Creek at mainline bridge.

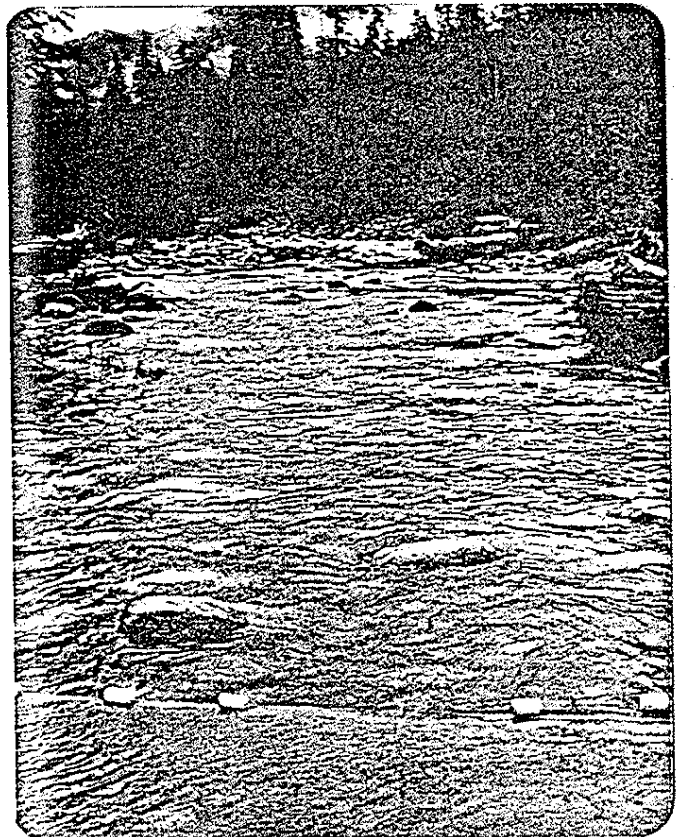


Figure 13. Electroshock site 13, McKay Creek, 1 mile from mouth, tributary of the upper Kitimat.

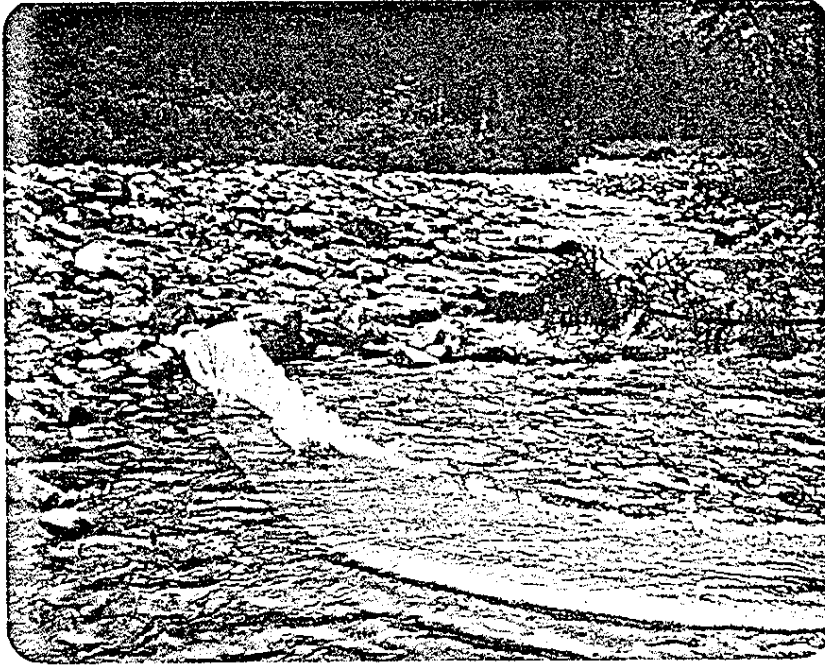


Figure 14. Electroshock site 14. Hunter Creek, sidechannel, tributary of the upper Kitimat.

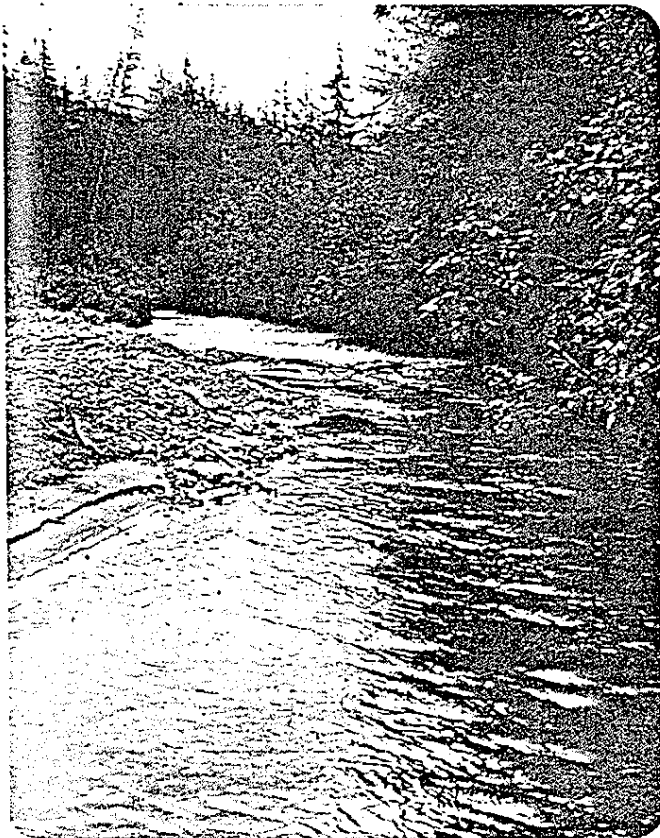


Figure 15. Electroshock site 17. Sidechannel of mainstem Kitimat, above cascades past Davies Creek.



Figure 16. Electroshock site 18,  
sidechannel of mainstem Kitimat,  
1 mile below barrier falls.

APPENDIX "N"

Survey of Duck Creek

Appendix N Survey of Duck Creek

Duck Creek is a small tributary of the Kitimat which crosses the Eurocan mainline north of Goose Creek at about mile 4. The creek was surveyed on September 16 1976, by Bob Allen, the habitat protection technician, for a logging referral. Adult coho were spawning at the tributary at mile 5½ of the creek where the creek was flanked on both sides by active logging. Resident cutthroat and Dolly Varden as well as juvenile coho were electroshocked from the same tributary. See the attached map.



APPENDIX N  
MAP OF DUCK CREEK,  
KITTIMAT RIVER

